

124-NR

M.D. DEGREE EXAMINATION – APRIL, 2014

RADIO DIAGNOSIS

Paper-I – Basic Sciences

Time : 3 Hours

Max. Marks : 100

Note : Answer all questions

All questions carry equal marks

WRITE SHORT ESSAYS ON THE FOLLOWING:

1. Discuss the principle of acoustics applicable to ultrasound imaging. Describe in brief the construction of transducers used in real time ultrasound. Discuss in brief the various ultrasonography controls.
2. Discuss the CT anatomy of the temporal bone.
3. Write short notes on:
  - a) ALARA
  - b) Compton effect
  - c) Superior orbital fissure
  - d) MR myelography
  - e) HALF value layer
4. Enumerate factors affecting radiographic image quality. How will you improve radiographic image quality?
5. What are the properties of X-rays? Discuss the biological effects of radiation.
6. Classify intravenous contrast media. What are the advantages of newer generation of contrast media? Discuss their adverse reactions.
7. Discuss the cross sectional anatomy of neck spaces.
8. Write short notes on:
  - a) Focal spot of X-ray tube
  - b) Co2 Angiography
  - c) Anode Heel effect
  - d) High KV technique in chest X-ray
  - e) Time Gain Compensation (TGC) and dynamic range in ultrasound
9. Discuss the imaging anatomy of the knee joint.
10. What is maximum permissible dose? Describe the methods of radiation protection to the patient and staff in diagnostic radiology.

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